

IN THE CLAIMS

Please cancel claims 1-61, without prejudice and add the following new claims 62-89.

1-61. (Cancelled)

62. (New) An electrolysis apparatus including:

an elongate generally tubular shaped outer electrode;

an elongate generally tubular shaped inner electrode, the inner electrode being positioned to extend generally longitudinally within the outer electrode; and

a separator extending between the inner and the outer electrodes, in which at least one of the inner and the outer electrodes includes two generally tubular shaped formations positioned one within the other, immediately adjacent each other, and each of which are of a foraminous electrically conductive construction.

63. (New) The electrolysis apparatus as claimed in claim 62, in which the two generally tubular shaped formations of the at least one of the inner and outer electrodes are formed from an electrically conductive mesh.

64. (New) The electrolysis apparatus as claimed in claim 62, in which the two generally tubular shaped formations of the at least one of the inner and outer electrodes are formed from a material including stainless steel.

65. (New) The electrolysis apparatus as claimed in claim 62, in which the two generally tubular shaped formations of the at least one of the inner and outer electrodes are formed from a material including a conductive polymer.

66. (New) The electrolysis apparatus as claimed in claim 62, in which the two generally tubular shaped formations of the at least one of the inner and outer electrodes are coated with an electrically conductive material.

67. (New) The electrolysis apparatus as claimed in claim 66, in which the two generally tubular shaped formations have been placed together and then coated with an electrically conductive material while in a placed together condition.

68. (New) The electrolysis apparatus as claimed in claim 66, in which the two generally tubular shaped formations are coated with an electrical conductive material including nickel.

69. (New) The electrolysis apparatus as claimed in claim 62, in which the two generally tubular shaped formations of the at least one of the inner and outer electrodes define a cathode of the electrolysis apparatus.

70. (New) The electrolysis apparatus as claimed in claim 62, in which each of the inner and the outer electrodes include two generally tubular shaped formations positioned one within the other, immediately adjacent each other, and each of the

generally tubular shaped formations are of a foraminous electrically conductive construction.

71. (New) The electrolysis apparatus as claimed in claim 70, in which each of the two generally tubular shaped formations of each of the inner and outer electrodes are formed from an electrically conductive mesh.

72. (New) The electrolysis apparatus as claimed in claim 70, in which each of the two generally tubular shaped formations of each of the inner and outer electrodes are formed from a material including stainless steel.

73. (New) The electrolysis apparatus as claimed in claim 70, in which each of the two generally tubular shaped formations of each of the inner and outer electrodes are formed from a material including a conductive polymer.

74. (New) The electrolysis apparatus as claimed in claim 62, in which one of the inner and the outer electrodes includes nickel and the other one of the inner and the outer electrodes includes stainless steel.

75. (New) The electrolysis apparatus as claimed in claim 74, in which the one of the inner and the outer electrodes which includes nickel defines a cathode of the electrolysis apparatus.

76. (New) The electrolysis apparatus as claimed in claim 62, in which the separator includes a fibrous material.

77. (New) The electrolysis apparatus as claimed in claim 76, in which the fibrous material includes cellulose.

78. (New) The electrolysis apparatus as claimed in claim 76, in which the separator is of a wettable fibrous material.

79. (New) An electrolysis apparatus including:

an elongate generally tubular shaped outer electrode;

an elongate generally tubular shaped inner electrode, the inner electrode being positioned to extend generally longitudinally within the outer electrode; and

a separator extending between the inner and the outer electrodes, at least one of the inner and the outer electrodes including a plurality of generally tubular shaped formations of a foraminous electrically conductive construction which are positioned one within the other, immediately adjacent each other, the generally tubular shaped formations having been coated with an electrically conductive material while in a placed together condition.

80. (New) The electrolysis apparatus as claimed in claim 79, in which the plurality of generally tubular shaped formations of a foraminous electrically conductive construction are formed from a material including a conductive polymer.

81. (New) The electrolysis apparatus as claimed in claim 79, in which the generally tubular shaped formations have been coated with an electrically conductive material including nickel while in a placed together condition.

82. (New) An electrolysis apparatus which includes:
a separator; and
at least two electrodes, positioned on opposed sides of the separator, in which at least one of the electrodes is formed of a material including a conductive polymer.

83. (New) The electrolysis apparatus as claimed in claim 82, in which the at least one of the electrodes which is formed of a material including a conductive polymer is coated with a conductive material.

84. (New) The electrolysis apparatus as claimed in claim 83, in which the conductive material includes nickel.

85. (New) An electrolysis apparatus as claimed claim 82, in which one of the at least two electrodes is in the form of an elongate generally tubular shaped outer electrode and the other of the at least two electrodes is in the form of an elongate generally tubular shaped inner electrode, the inner electrode being positioned to extend generally longitudinally within the outer electrode, the separator extending between the inner and the outer electrode.

86. (New) An electrolysis apparatus as claimed in claim 85, in which at least one of the inner and the outer electrodes is foraminous.

87. (New) An electrolysis apparatus as claimed in claim 85, in which the electrodes define a closed off end.

88. (New) A method of performing electrolysis including:

providing an electrolysis apparatus having an elongate generally tubular shaped outer electrode, an elongate generally tubular shaped inner electrode, the inner electrode being positioned to extend generally longitudinally within the outer electrode and a separator extending between the inner and the outer electrodes;

exposing the inner and the outer electrodes to an electrolyte solution; and

establishing a potential difference between the inner and the outer electrodes thereby to produce hydrogen by electrolysis, at least one of the inner and the outer electrodes including at least two generally tubular shaped formations positioned one within the other, immediately adjacent each other, and each of the generally tubular shaped formations are of a foraminous electrically conductive construction.

89. (New) The method as claimed in claim 88, in which exposing the inner and the outer electrodes to an electrolyte solution includes exposing the inner and the outer electrodes to an acidic electrolyte solution.